

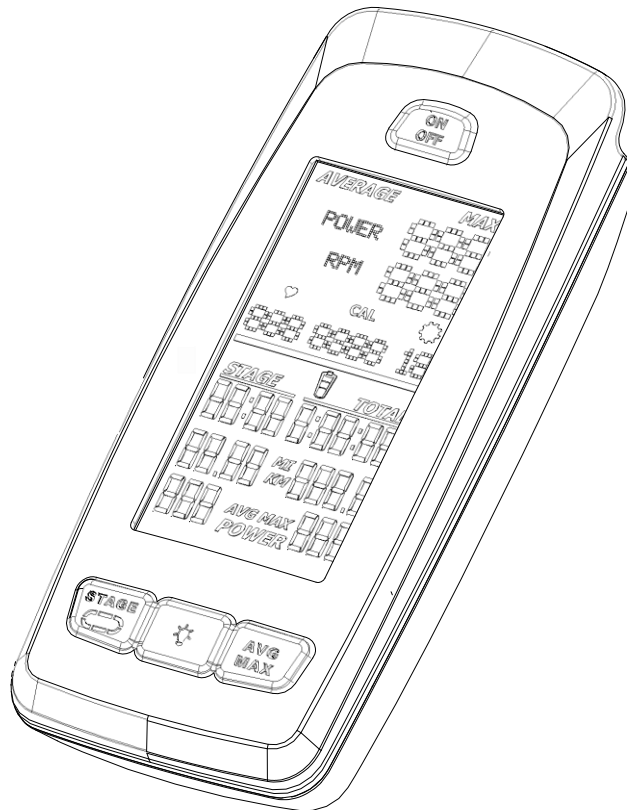


**SCHWINN**

**MPower™ Echelon2 Console**  
**MPower™ Echelon2 Power Upgrade**  
**MPower™ Echelon2 External Wiring Kit**



**Installation Guide**





## Table of Contents

1. Introduction.....	3
2. Tools Required .....	3
3. Console Kit Contents.....	4
4. Optional Power Upgrade Kit Contents.....	4
5. External Wiring Kit Contents.....	4
6. Console Kit Installation on AC™ Sport and AC™ Performance Bikes .....	5
7. Console Kit Installation on AC™ Performance Plus Bikes .....	11
8. Magnet Gap Check and Adjustment.....	18
9. Optional Power Upgrade Kit Installation on AC™ Sport and AC™ Performance Bikes.....	20
10. Optional Power Upgrade Kit Installation on AC™ Performance Plus Bikes .....	24
11. Service Mode Operation.....	27
12. Assigning System Settings .....	27
13. Calibrating Power Sensor.....	31
14. Checking System Settings, Resetting System, and Updating firmware.....	33



## 1. INTRODUCTION

This installation guide details how to install and setup the following:

- Schwinn® MPower™ Echelon2 Console, P/N 740-8727
- Schwinn® MPower™ Echelon2 Optional Power Upgrade, P/N 740-8730
- Schwinn® MPower™ Echelon2 External Wiring Kit, P/N 740-8875

The following instructions apply to the following models:

- Schwinn® AC™ Performance
- Schwinn® AC™ Sport
- Schwinn® AC™ Sport with Carbon Blue
- Schwinn® AC™ Performance Plus
- Schwinn® AC™ Performance Plus with Carbon Blue

**NOTE:** *The console cable must be externally routed on the AC™ Performance and AC™ Sport models. This requires that the External Wiring Kit, 740-8875 be used. The console cable for the AC Performance Plus is routed internally*

## 2. TOOLS REQUIRED

- Phillips screw driver
- 2.5mm hex key
- 3mm hex key
- Glove
- Soft-jaw pliers (Pliers with protective rubber or plastic caps over jaws)

**NOTE:** *Tools are not included in the kits.*



### 3. CONSOLE KIT CONTENTS

Item	Description	QTY
1	Console	1
2	Console mount bracket	1
3	RPM (Cadence) sensor	1
4	RPM sensor adapter for AC Sport and AC Performance models	1
5	Console-to-RPM sensor cable (Only used when the optional power upgrade kit is not installed)	1
6	Connector protective cap	1
7	Cosmetic cap for AC Performance Plus models	1
8	C Cell Batteries	2
9	Console bracket mount screws, M4 x 10mm PHP, for AC Performance Plus models	3
10	Console bracket mount screws, M5 x 14mm BHCS, for AC Sport and AC Performance models	2
11	Connector protective cap mount screws, M3 x 12mm SHCS	2
12	Console-to-bracket mount screw, M3 x 6mm PHP	1
13	RPM sensor adapter mount screw, M3 x 6mm PHP (Only used on AC Sport and AC Performance Plus models)	1
14	Cosmetic cap mount screw, M5 x 14mm (Same as Item 10)	1
15	Cable grommet	1
16	RPM cable saddles	2
17	Cable saddle mount rivets	2
18	CD Rom with Owner's Manual and Installation Guide	1

### 4. OPTIONAL POWER UPGRADE KIT CONTENTS

Item	Description	QTY
1	Sensor assembly	1
2	Console-to-power sensor cable	1
3	RPM-to-Power sensor cable	1
4	Magnet assembly	1
5	Sensor mount screws, M4 x 6mm BHCS (Only 2 screws are used on older models with two screw mount holes)	3
6	Calibration tool	1

### 5. EXTERNAL WIRE KIT CONTENTS

Item	Description	QTY
1	Cable duct assemblies	2



## 6. CONSOLE KIT INSTALLATION ON AC™ SPORT AND AC™ PERFORMANCE BIKES

**NOTE:** If installing the console with the optional power upgrade at the same time as the console, review the instructions in the section “Optional Power Upgrade Kit Installation on AC™ Sport and AC™ Performance Bikes” before proceeding with the steps in this section.

1. Insert batteries into console. (Figure 1)



**Figure 1**

2. Mount the console bracket using the two (2) M5 x 14mm button head screws. Tighten the screws using the 3mm hex key. (Figure 2 and Figure 3)



**Figure 2**



**Figure 3**

3. Slide the console onto the bracket. Insert the M3 x 6mm pan head screw and tighten with the screw driver. (Figure 4)



**Figure 4**

4. Prior to installing the upper conduit, clean head tube with isopropyl alcohol. Allow to air dry.
5. Peel off backing adhesive and align duct part number 740-8875-001 to forward edge and lower edge of the frame tube (as shown below). Apply normal pressure for 5 seconds. (Figure 5)

*Note: It is recommended that the adhesive set for 24 hours before use.*

6. Insert the cable through the slot. (Figure 5)
7. Snap the outer part of the cable duct onto the base with the cable inside. (Figure 6)

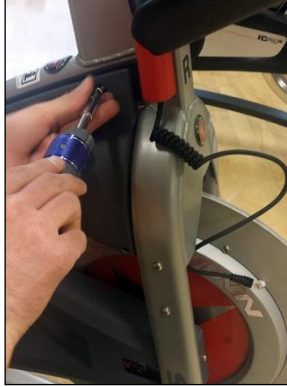


**Figure 5**



**Figure 6**

8. Using a Philips screw driver, remove the sweat guard (Do not use a power drill in removing and re-installing). (Figure 7)
9. Route the cable through the sweat guard. (Figure 8)



**Figure 7**

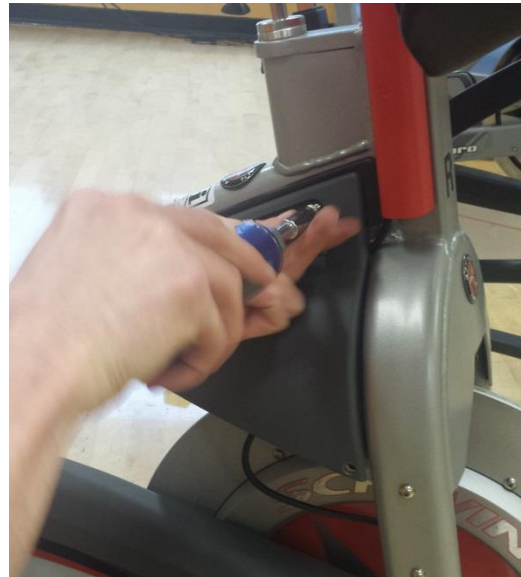


**Figure 8**

10. Re-mount the sweat guard. (Figure 9 and Figure 10)



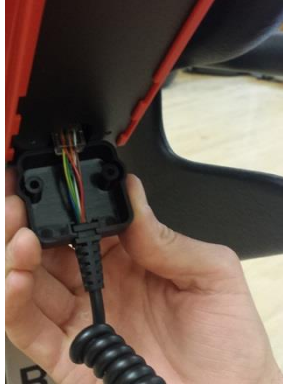
**Figure 9**



**Figure 10**

11. Plug the console cable RJ45 connector into the console. (Figure 11)
12. Slide the grommet of the cable into the slot on the connector protective cap as shown. (Figure 11)
13. Attach the protective cap to the bracket using the two (2) M3 x 12mm socket head cap screws, and tighten with the 2.5mm hex key. (Figure 12)





**Figure 11**



**Figure 12**

14. Attach the RPM sensor adapter to the RPM sensor using the M3 x 6mm Philips Pan Head Screw. (Figure 13)
15. Unscrew the M3 x 6mm Philips Pan Head screw holding the RPM sensor cover on and remove it. (Figure 14 and Figure 15)



**Figure 13**



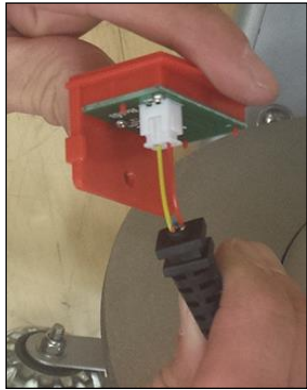
**Figure 14**



**Figure 15**



16. Plug the RPM sensor cable 2-pin connector into the RPM sensor connector and slide the cable grommet into the slot in the RPM sensor housing. (Figure 16 and Figure 17)
17. Reinstall the RPM sensor cover into the housing, and reinstall the M3 x 6mm Philips Pan Head screw. (Figure 18 and Figure 19)



**Figure 16**



**Figure 17**



**Figure 18**



**Figure 19**

18. Remove the top and bottom screw from the front of the chain guard. (Figure 20)
19. Position the RPM sensor as shown and reinstall the two chain guard screws. The RPM sensor should be about 2 - 3mm away from the flywheel, or about the width of a credit card. If the RPM sensor is too close, it will rub against the sensor magnet that is embedded in the flywheel. If the RPM sensor is too far away, the sensor will intermittently pick up a signal from the magnet or will not pick up any signal at all; this will cause an erratic RPM display, or no RPM display. (Figure 21)



**Figure 20**



**Figure 21**

20. Prior to applying the lower conduit, clean the surface of the inner right fork with isopropyl alcohol and allow to air dry. Peel the non-stick strip off the plastic conduit base. Place it firmly on the inside of the right hand fork. There should be about one inch gap between chain guard/rpm sensor bracket and the wire conduit. (Figure 22)
21. Route the wire inside the conduit and snap the conduit outer cover on to the base. (Figure 23 and Figure 24)



**Figure 22**



**Figure 23**



**Figure 24**



## 7. Console KIT Installation on AC™ Performance Plus Bikes

**NOTE:** If installing the console with the optional power upgrade at the same time as the console, review the instructions in the section “Optional Power Upgrade Kit Installation on AC™ Performance Plus” before proceeding with the steps in this section.

1. Insert batteries into console. (Figure 25)



**Figure 25**

2. Remove handlebars from bike and place on a sturdy working surface.
3. Grab the console-to-RPM cable and note which end has the 2-pin connector.
4. Insert the end of cable with the 2-pin connector into the opening at the top of the handlebar post. Feed the cable through, with one section of coiled cable being inside the tube, and one section of coiled cable being outside the tube. The end of the cable should just be poking out of the end of the tube. (Figure 26 and Figure 27)



**Figure 26**



**Figure 27**

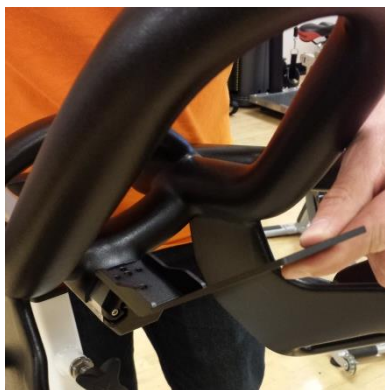


5. Place the handlebar back on the bike.
6. Feed the end of the cable out of the end of the head tube. Wear heavy-duty protective gloves when pulling the end of the cable out of the head tube as there may be sharp edges inside the head tube. (Figure 28)



**Figure 28**

7. Mount the console bracket using the three (3) M4 x 10mm Philips Pan Head screws, and tighten the screws. (Figure 29 and Figure 30)



**Figure 29**



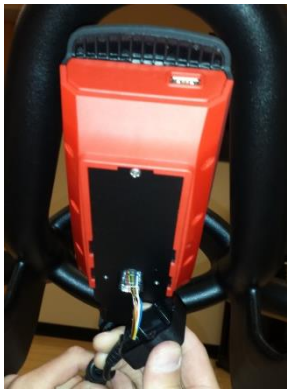
**Figure 30**

8. Slide the console onto the bracket. Insert the M3 x 6mm pan head screw and tighten with the screw driver. (Figure 31)



**Figure 31**

9. Plug the console cable RJ45 connector into the console. (Figure 32)
10. Slide the grommet of the cable into the slot on the connector protective cap as shown. (Figure 32)
11. Attach the protective cap to the bracket using the two (2) M3 x 12mm socket head cap screws, and tighten with the 2.5mm hex key. (Figure 33)



**Figure 32**



**Figure 33**

12. Install the cosmetic cap using a M5 x 14mm BHCS. (Figure 34 and Figure 35)





**Figure 34**



**Figure 35**

13. Using a Philips screw driver, remove the sweat guard (Do not use a power drill in removing and re-installing). Route the cable through the sweat guard. (Figure 36 and Figure 37)



**Figure 36**



**Figure 37**

14. Unscrew the M3 x 6mm Philips Pan Head screw holding the RPM sensor cover on and remove it. (Figure 38 and Figure 39)



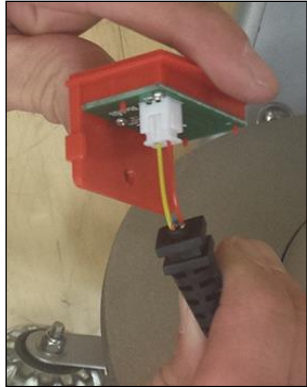
**Figure 38**



**Figure 39**

15. Plug the RPM sensor cable 2-pin connector into the RPM sensor connector and slide the cable grommet into the slot in the RPM sensor housing. (Figure 40 and Figure 41)
16. Reinstall the RPM sensor cover into the housing, and reinstall the M3 x 6mm Philips Pan Head screw. (Figure 42 and Figure 43)





**Figure 40**



**Figure 41**

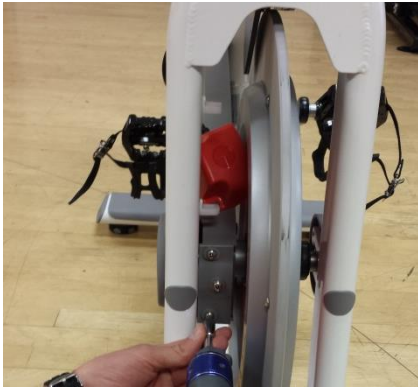


**Figure 42**



**Figure 43**

17. Remove the top and bottom screw from the front of the chain guard. (Figure 44)
18. Position the RPM sensor as shown and reinstall the two chain guard screws. The RPM sensor should be about 2 - 3mm away from the flywheel, or about the width of a credit card. If the RPM sensor is too close, it will rub against the sensor magnet that is embedded in the flywheel. If the RPM sensor is too far away, the sensor will intermittently pick up a signal from the magnet or will not pick up any signal at all; this will cause an erratic RPM display, or no RPM display. (Figure 45)
19. Reinstall the sweat guard.



**Figure 44**



**Figure 45**

20. Install the two cable saddle mounts to the two holes inside the left fork using the two plastic rivets. (Figure 46 and Figure 47)



**Figure 46**



**Figure 47**

21. Secure the cable inside the two saddle clamps as shown. (Figure 48)

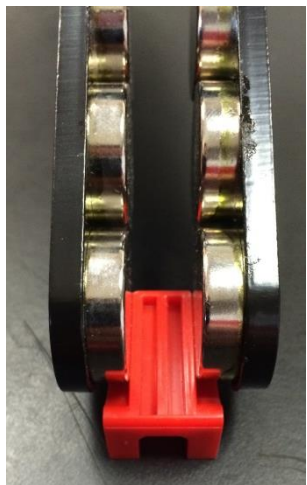


**Figure 48**

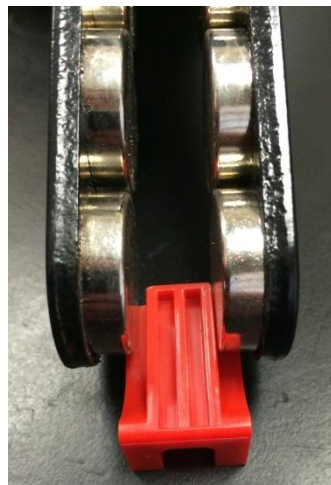


## 8. Magnet Gap Check and Adjustment

*NOTE: In order to achieve consistent power output between multiple bikes, it is very important that the gap between the magnets on the resistance mechanism is correct and consistent between bikes. The gap is set by the factory when the bikes are assembled; however, some older model bikes may not have correct magnet gap. Checking the magnet gap and adjusting it as needed on each bike will ensure a high level of consistency of power out between bikes. The two pictures below show the resistance mechanism with a correct magnet gap and with an incorrect (too large) magnet gap. The tool used to measure magnet gap is the same tool that is used to calibrate the power sensor on each bike (as detailed in Section 13). Figure 49 shows the correct gap when checked with the tool. Figure 50 shows a gap that is too large. The calibration tool should have a slip fit in between the magnets without having to force the tool in place, and without any gaps between the tool and the magnets. To check the magnet gap and adjust the gap, follows the steps below.*



**Figure 49**



**Figure 50**

1. Place the calibration tool on the flywheel and rotate the flywheel so that the tool rests between the front set of magnets. Shown on the AC™ Sport for clarity in Figure 51 and Figure 52. As can be seen in the figure on the right, the gap is too large in this case. The gap should be between 10.5 mm and 11 mm. Using the calibration tool will set the gap correctly
2. To adjust the magnet gap, carefully place a pair of soft-jaw pliers around the outside of the resistance mechanism plates, and squeeze. Make small adjustments at a time and check the gap with the tool fit—the fit should be a slip fit with no side-to-side play. Make sure the flywheel remains centered between the magnets. See Figure 53 and Figure 54. Figure 55 shows how to adjust the magnet gap on the AC™ Performance. Figure 56 shows how to adjust the



magnet gap on the AC™ Performance Plus. **Error! Reference source not found.** shows the correct magnet gap on the AC™ Sport, and Figure 58 shows the magnet gap on the AC™ Performance Plus. **IMPORTANT NOTE: DO NOT USE ANY METAL TOOLS DIRECTLY ON THE SURFACE OF THE BLACK PLATES. DOING SO WILL DAMAGE THE CORROSION RESISTANT COATING.**



**Figure 51**



**Figure 52**



**Figure 53**



**Figure 54**





Figure 55



Figure 56



Figure 57

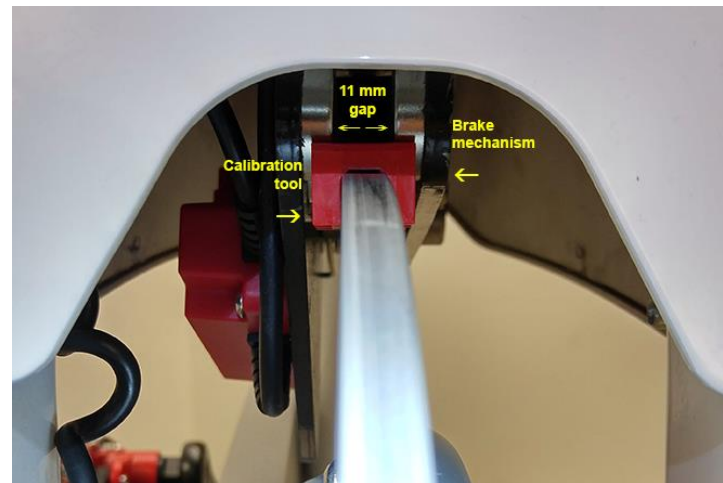


Figure 58

## 9. Optional Power Upgrade Kit Installation on AC™ Sport and AC™ Performance Bikes

*NOTE: When installing the power upgrade kit, do not use the console-to-RPM sensor cable (Item 5) from the console kit. This cable is not used when installing the power upgrade kit. Use the console-to-power cable (Item 2) in the power kit to connect the console to the power sensor. Use the RPM-to-power cable (Item 3) in the power kit to*

connect the RPM sensor to the power sensor; this cable is the shorter cable with a two-pin connector on each end of the cable. (Figure 59)



**Figure 59**

1. Repeat Step 1-9, and 11-21 from the console kit installation instructions above.  
*NOTE: The difference at this point will be that the cable from the console will not be plugged into the RPM sensor. The RPM sensor cable will have one free end after installing the RPM sensor on the bike and routing the RPM cable through the cable duct. The console-to-power cable has different lengths of unshielded wires at each end as show below in Figure 60 and has RJ45 connectors on both ends. The end with the shorter length of unshielded wires (shown in the right) plugs into the console. The end with the longer length of unshielded wires (shown on the left) is routed through the cable duct and plugged into the power sensor.*



**Figure 60**

2. Position rubber boot with magnet (magnet assembly) so that the hex pattern of the boot lines up with the hex nut on the resistance mechanism. (Figure 61)
3. Slide boot onto hex nut and ensure that boot sits in contact with the black plate of the resistance mechanism. (Figure 62)



**Figure 61**



**Figure 62**

4. Plug console cable into the RJ45 connector, and the RPM cable into the 2-pin connector on the power sensor. Slide each cable's grommet into their respective slots in the power sensor case. (Figure 63)



**Figure 63**

5. Attach sensor case to the resistance mechanism using the M4 x 6mm button head screws. **NOTE: Be sure that sensor case sits tight against the black plate of the resistance mechanism. All wires must be contained within the sensor cover and not protrude from the sensor cover, which will prevent the cover from being completely seated.** (Figure 64)



**Figure 64**





6. Reinstall sweat guard. (See Figure 10)

**IMPORTANT:** Before using the console with the power upgrade kit for the first time, the power sensor must be calibrated. Follow the instructions for "[Calibrating Power Sensor](#)."



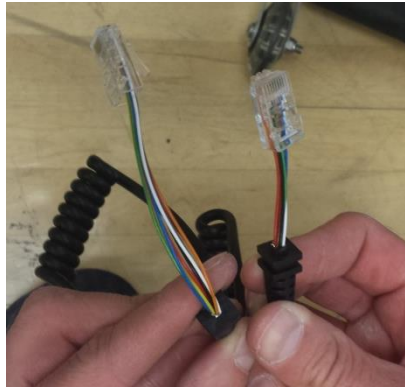
## 10. Optional Power Upgrade Kit Installation on AC™ Performance Plus Bikes

*NOTE: When installing the power upgrade kit, do not use the console-to-RPM sensor cable (Item 5) from the console kit. This cable is not used when installing the power upgrade kit. Use the console-to-power cable (Item 2) in the power kit to connect the console to the power sensor. Use the RPM-to-power cable (Item 3) in the power kit to connect the RPM sensor to the power sensor; this cable is the shorter cable with a two-pin connector on each end of the cable. (Figure 65)*



**Figure 65**

1. Repeat Step 1-9, and 11-21 from the console kit installation instructions above.  
*NOTE: The difference at this point will be that the cable from the console will not be plugged into the RPM sensor. The RPM sensor cable will have one free end after installing the RPM sensor on the bike and routing the ROM cable through the cable duct. The console-to-power cable has different lengths of unshielded wires at each end as shown in Figure 66 and has RJ45 connectors on both ends. The end with the shorter length of unshielded wires (shown in the right) plugs into the console. The end with the longer length of unshielded wires (shown on the left) is routed through the handlebar post to be plugged into the power sensor. After routing the cable through the post, and reinstalling the post, the RJ45 connector that plugs to the power sensor will be visible. (Figure 67)*



**Figure 66**



**Figure 67**

2. Position rubber boot with magnet (magnet assembly) so that the hex pattern of the boot lines up with the hex nut on the resistance mechanism. (Figure 68)
3. Slide boot onto hex nut and ensure that boot sits in contact with the black plate of the resistance mechanism. (Figure 69)



**Figure 68**



**Figure 69**

4. Plug console cable into the RJ45 connector, and the RPM cable into the 2-pin connector on the power sensor. Slide each cable's grommet into their respective slots in the power sensor case. (Figure 70)



Figure 70

5. Attach sensor case to the resistance mechanism using the M4 x 6mm button head screws. **NOTE: Be sure that sensor case sits tight against the black plate of the resistance mechanism. All wires must be contained within the sensor cover and not protrude from the sensor cover, which will prevent the cover from being completely seated.** (Figure 71)



Figure 71

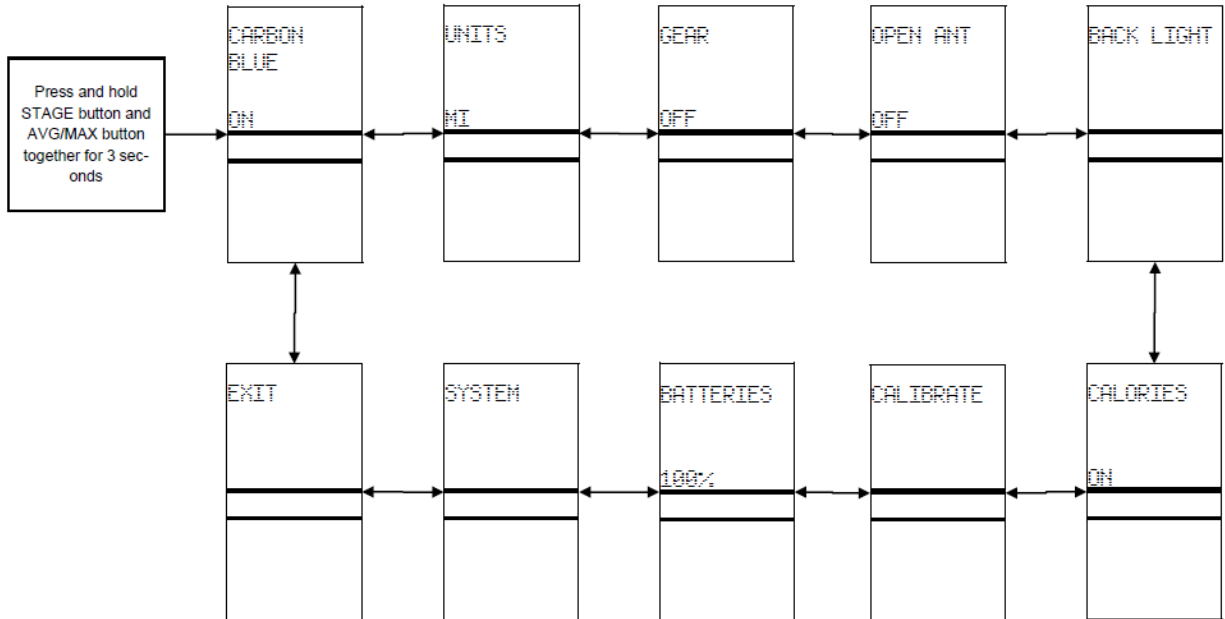
6. Reinstall sweat guard.

**IMPORTANT:** Before using the console with the power upgrade kit for the first time, the power sensor must be calibrated. Follow the instructions for "[Calibrating Power Sensor](#)."



## 11. SERVICE MODE OPERATION

Service mode may be entered immediately after powering on the console, or when the console is in Pause mode (Pause mode is indicated by flashing digits on the screen). Service mode cannot be entered during Ride mode. Follow the instructions in the attached picture to enter Service mode. In Service mode, the STAGE button is used to scroll backwards. The LIGHT button is used as an enter button to enter submenus, or make select desired setting. The AVG/MAX button is used to scroll forward. To exit the Service mode, scroll to the EXIT menu and press the LIGHT (Enter) button.



## 12. ASSIGNING SYSTEM SETTINGS

The picture below shows the optional system settings and how to assign settings. Below is a description of each setting. *NOTE: The Gear setting and Calibration settings are not used unless the optional power upgrade kit is installed.*

### Carbon Blue

This setting is used to distinguish between Carbon Blue bike with a belt and bikes with a chain. The default setting is ON. Leave this setting set to ON for Carbon Blue models. On models with chain, set it to OFF.

### Gear

This is an optional setting that enables the console to display a gear number that corresponds to the level of resistance. When set to ON, a gear symbol and gear number will be displayed on the right side of the console next to the calories value. This setting is set to OFF by default.



## Units

The units refer to the distance. The two optional settings are miles or kilometers. The default setting is miles.

## Open Ant Channel

This setting is used to turn on the channel that broadcasts data to external leaderboard systems that display console data on a large screen. This must be set to ON in order for external systems to read data from the console. It is set to OFF by default. Leaving this setting off when not used conserves battery life.

## Backlight

This setting allows the user to set the backlight display to a number of settings. In the BACKLIGHT SETTING submenu the backlight can be set as follows:

- Backlight displays for 10 seconds when the LIGHT button is pressed in Ride mode (this is the default setting)
- Backlight displays for 15 seconds when the LIGHT button is pressed in Ride mode
- Backlight displays for 20 seconds when the light button is pressed in Ride mode
- When set to ON, the backlight will always be on when the console is on
- When set to OFF, the backlight cannot be used when the console is on

In the BACKLIGHT HOLD submenu the backlight display can be set as follows:

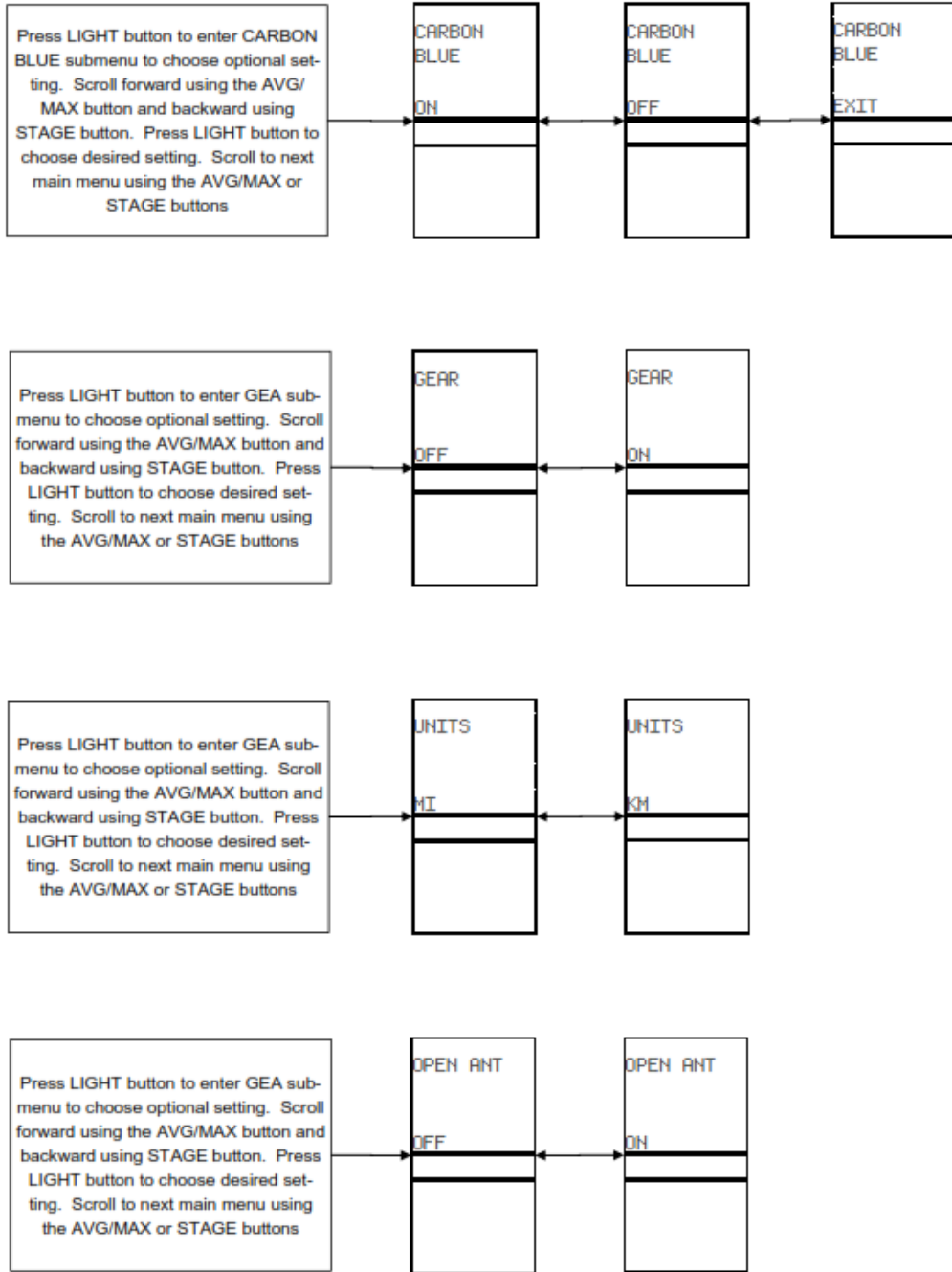
- When set to ON, the rider can press and hold the LIGHT button for 5 seconds, allowing the backlight to remain on until the rider presses the LIGHT button again to turn off the light
- When set to OFF, the backlight hold display cannot be used

## Calories

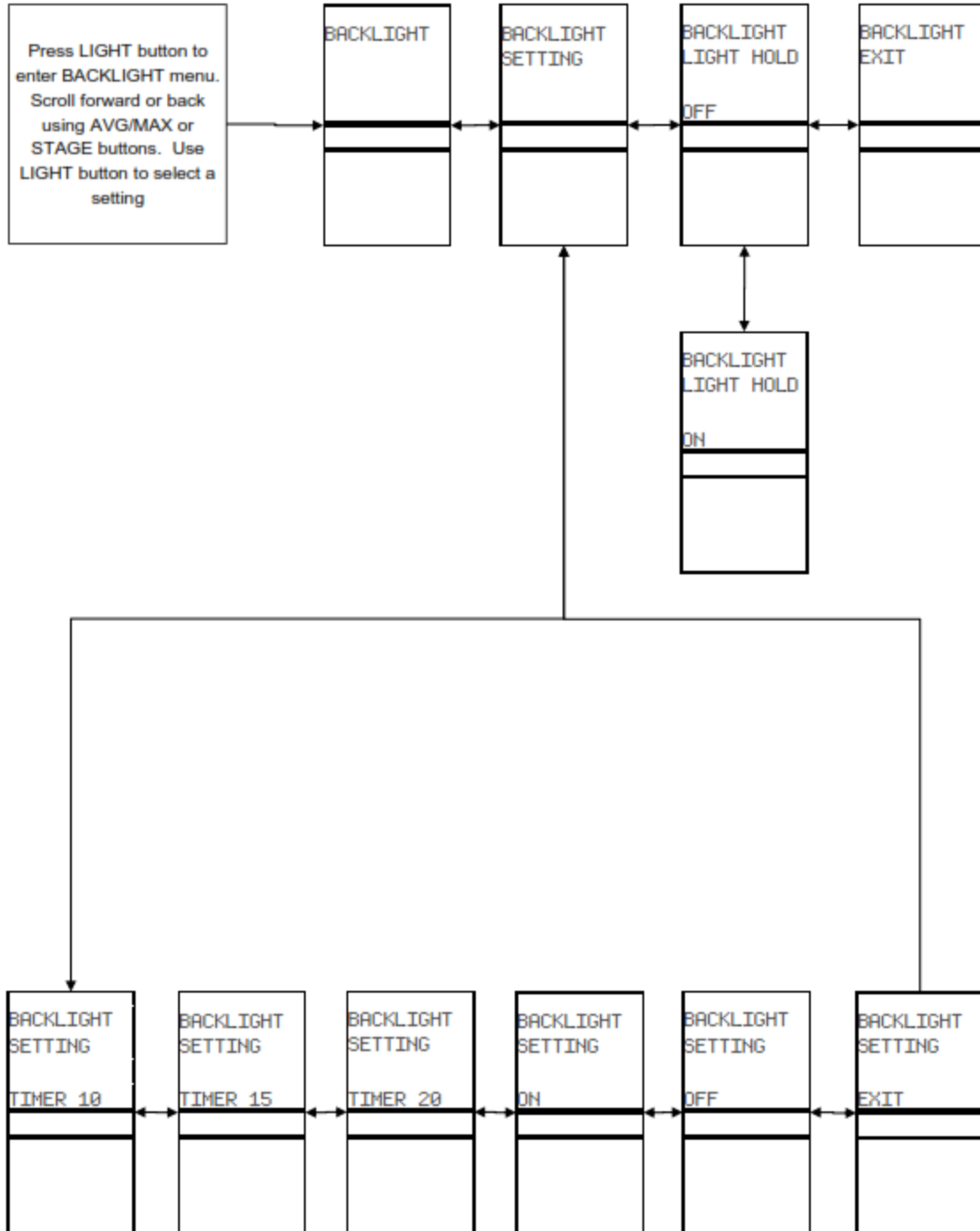
This is an optional setting that enables the user to turn the calorie (CAL) display ON or OFF. This setting is set to ON by default. NOTE: This optional setting is not available in firmware version V1.0. It is available only in firmware version V1.1 and later.

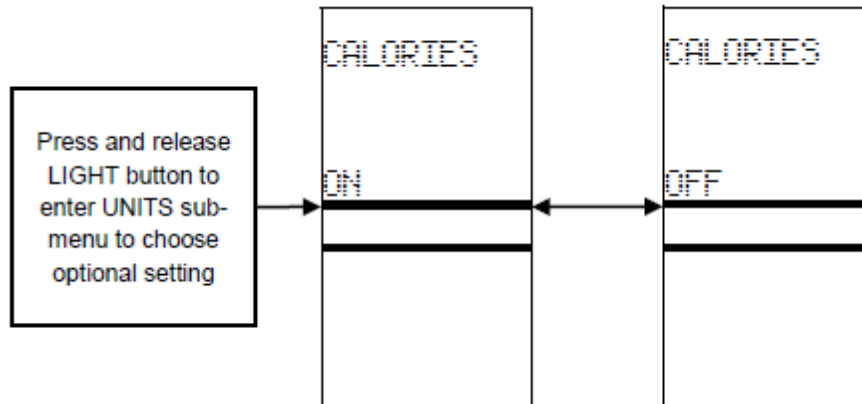
## Batteries

The battery strength is displayed on the BATTERIES screen.









### 13. CALIBRATING POWER SENSOR

Before performing the calibration, follow the steps in Section 9 of this document for checking and adjusting magnet gap. This will ensure consistent power output between multiple bikes.

When the optional power upgrade kit is installed with the console for the first time, the sensor zero point must be set. This is done using the calibration tool included with the power upgrade kit. Follow the prompts as shown below to set the zero point. Place the calibration tool on the flywheel as shown in (Figure 72 and Figure 73). It is very important that the calibration tool rest completely on the flywheel, and is placed between the magnets. NOTE: When rotating the resistance knob to the right after placing the calibration tool as shown, only turn the resistance knob until the knob stops against the calibration tool. DO NOT USE EXCESSIVE FORCE ONCE THE KNOB STOPS TURNING. STOP TURNING AS SOON AS THE KNOB STOPS. After completing the zero set point operation, scroll to CURRENT ANGLE and verify the angle is 0.0 +/- .1 degrees. If the angle is outside this range, then rerun the zero set point process. Once the zero point is set, the console is ready to use.

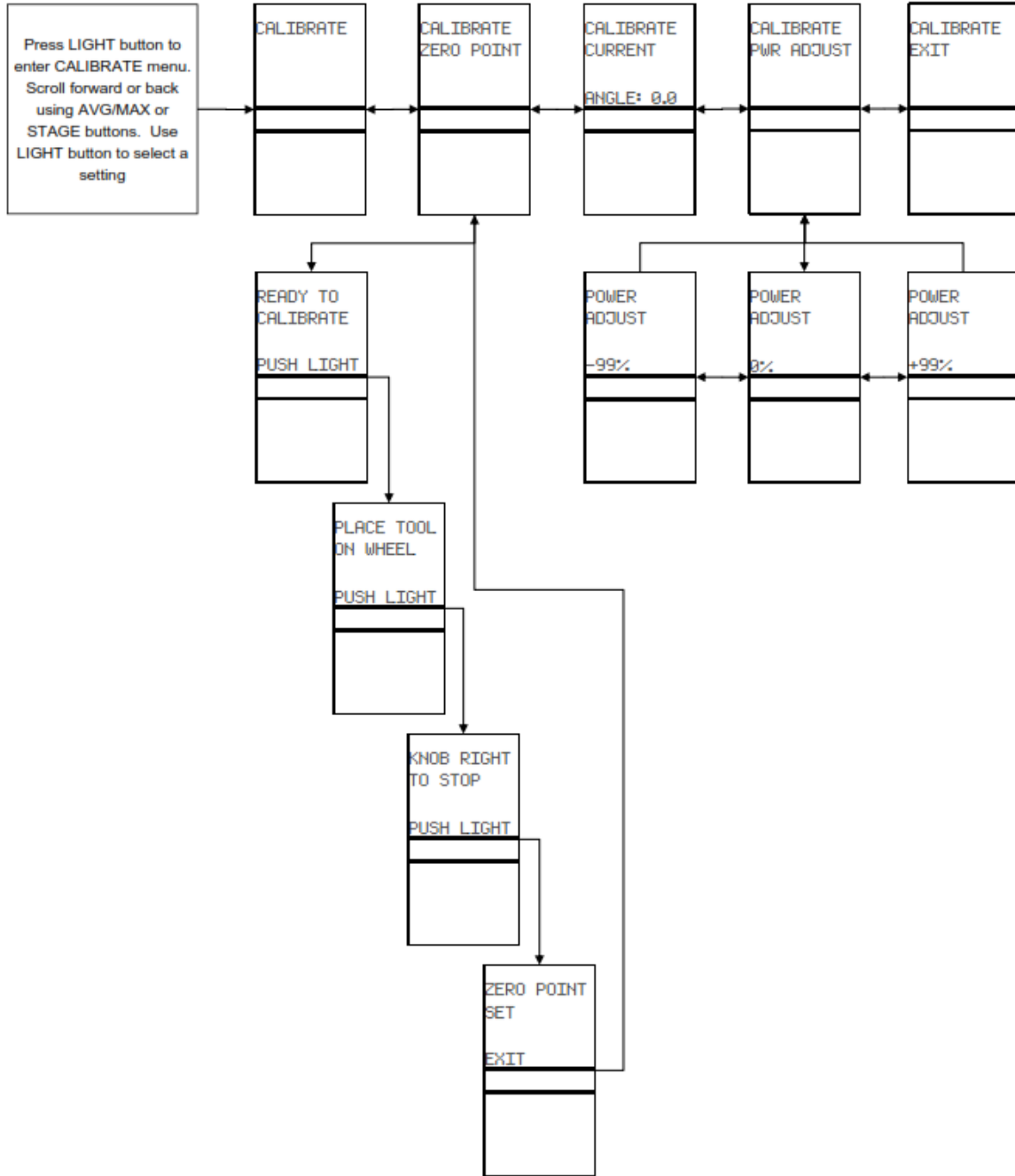
The CALIBRATE PWR ADJUST setting enables the rider to adjust the power displayed up or down between the range of -99% to +99%. This feature is intended to be used to fine tune the power level of bikes to make all bikes consistent in rare cases that some bikes feel “easier” or “harder” to riders compared to other bikes at a given level of resistance.



**Figure 72**



**Figure 73**



## 14. CHECKING SYSTEM SETTINGS, RESETTING SYSTEM, AND UPDATING FIRMWARE

### Checking System Settings

In the SYSTEM menu, the first screen displays the system summary which includes:

- Number of hours of usage on the third line



- Current version of firmware on the 4<sup>th</sup> line, in the lower section of the screen

### **Resetting System**

In the SYSTEM RESET submenu, the console can be restored to factory default settings by following the prompts shown below.

### **Updating Firmware**

The console firmware can be easily updated via a USB stick in the SYSTEM LOAD FW submenu. The firmware file should be loaded onto the US stick under the name “MPowerQ.bin”. To load the new firmware, follow the prompts shown below. Updating the firmware will not restore user-defined settings to factory default as is done SYSTEM RESET submenu. All user-defined settings will be maintained when updating firmware. After loading the firmware, scroll back to the SYSTEM SUMMARY screen and verify that the new version of firmware appears. Check the Schwinn Equipment website at [www.schwinnequipment.com](http://www.schwinnequipment.com) for firmware updates.



**SCHWINN®**

**Core Health & Fitness, LLC**

Phone: 1-800-503-1221

Email: [support@corehandf.com](mailto:support@corehandf.com)

Website: [www.schwinnequipment.com](http://www.schwinnequipment.com)

**Core Health & Fitness Trading Limited  
(UK Direct)**

UK Email: [ukservice@corehandf.com](mailto:ukservice@corehandf.com)

Phone: +44 1494 688271

P/N 620-8327 Rev E, August 2015

©2015 Core Health & Fitness, LLC. All rights reserved.





## Schwinn® MPower™ Echelon2 Power Validation

### Echelon2

The purpose of this service bulletin is to provide instructions for validating the power output of the Schwinn® MPower™ Echelon2 console after it has been properly calibrated. Before validating the power output of a console, follow the Zeropoint Calibration instructions for calibrating the Echelon2 power sensor.

Follow these steps to validate the power output on your Echelon2 console:

1. Run the Zeropoint Calibration procedure and check to verify that the Current Angle after calibration is holding steady between 359.9 and 0.1 degrees.
2. In the service menu, scroll to the GEAR option and press LIGHT button. Press and release the STAGE or AVG/MAX buttons to select the gear ON option. Press and release the LIGHT button to set the gear to ON.

**NOTE:** *The gear function must be used to validate the power. If the studio/club does not use the Gear function in its classes, then the Gear feature can be turned off after the power validation procedure.*

3. Scroll to the service menu EXIT screen using the STAGE or AVG/MAX buttons, and press the "LIGHT" button to exit the service menu and return to ride mode.
4. Using the power validation table below, select a gear and an RPM, and ride at the RPM. Check the power that is displayed on the console and compare it to the power for the given gear and RPM to see if they match.

**NOTE:** *Each gear covers a range of power rather than a single discrete power value. The easiest way to validate the power is to ride at the low end of the gear and check the power at that point. To get to the low end of the gear, add resistance just until the specific gear number shows on the display. For example, if riding at 90 RPM, start adding resistance just until the gear number 8 (or any other desired gear) is displayed. The accuracy of the power displayed will depend on how consistently you can ride at the chosen RPM, and on where in the gear range you are riding.*

The power validation test will work for any gear/RPM combination in the table. Not all combinations need to be used for the validation test.



# Customer Service Bulletin

Power Range by Gear

Gear	RPM									
	60	65	70	75	80	85	90	95	100	105
0	8	10	12	13	15	17	19	21	24	26
	13	15	18	20	23	26	29	33	36	40
1	13	15	18	21	23	26	30	33	37	40
	18	21	24	28	32	36	40	45	49	55
2	18	21	24	28	32	36	40	45	50	55
	23	26	31	35	40	45	51	56	63	69
3	23	27	31	35	40	45	51	57	63	69
	27	32	37	43	48	55	61	68	76	83
4	27	32	37	43	49	55	61	69	76	84
	32	37	43	50	57	64	72	80	89	98
5	32	38	44	50	57	64	72	80	89	98
	37	43	50	57	65	74	82	92	102	112
6	59	68	78	88	99	110	121	133	144	156
	71	82	94	106	119	132	145	159	173	187
7	71	82	94	107	119	133	146	160	174	188
	88	102	116	131	147	164	180	197	214	232
8	88	102	117	132	148	164	181	198	215	233
	109	126	144	163	183	203	224	245	266	287
9	109	127	145	164	184	204	225	246	267	289
	133	154	177	200	224	249	274	300	326	352
10	134	155	177	201	225	250	275	301	327	354
	161	186	213	241	270	300	330	361	393	424
11	161	187	214	242	271	301	331	362	394	426
	190	220	252	285	319	354	390	427	464	502
12	191	221	252	286	320	355	392	429	466	503
	221	256	293	331	371	412	454	496	540	583
13	221	256	293	332	372	413	455	498	541	585
	252	292	335	378	424	471	519	568	617	667
14	253	293	335	379	425	472	520	569	619	669
	285	330	377	427	478	531	585	640	696	752
15	285	330	378	428	479	532	586	642	697	753
	317	367	420	475	532	591	651	712	774	837
16	317	368	421	476	533	592	652	714	776	838
	349	404	462	522	585	650	716	784	852	921

NOTES:

1. Console and power sensor must be properly calibrated with the zero set point tool prior to validate against this chart
2. For purposes of validation, not all gears and RPMs are shown. Only gears 0 - 16 are shown.



Read the installation manual included with the Echelon2 console. It has important steps that must be followed to ensure that the console is set up correctly.

### Echelon2 MPower Upgrade Key Installation Points

1. When installing the magnet assembly (Fig. 1) onto the brake carriage, match the pattern on magnet assembly to the pattern of the nut (Fig. 2). If patterns are not matched, the console will not hold the zero point calibration. After placing the magnet assembly on the nut, cycle the brake carriage assembly up and down using the brake knob. The magnet assembly should not rotate with the brake carriage.

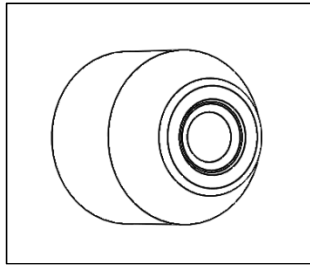


Fig. 1

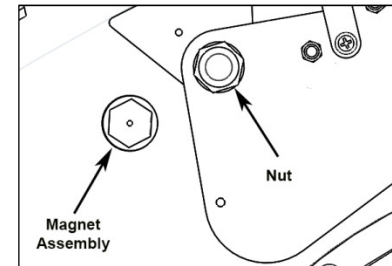


Fig. 2

2. The calibration tool (Fig. 3) must be used to ensure consistent power readings from bike to bike. Do not discard the calibration tool after install because it may be used to recalibrate if necessary.

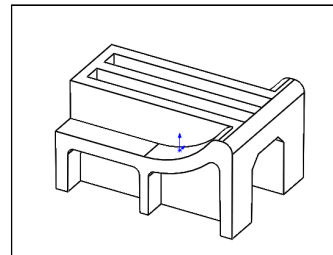


Fig. 3

3. Test your installation and calibration. Follow the instruction for the Schwinn® MPower Echelon2 Power Validation on the other side. This will ensure that the console has been set up correctly.

Validate the power output of the Schwinn® MPower™ Echelon2 console after it has been properly calibrated. Before validating the power output of a console, follow the Zeropoint Calibration instructions for calibrating the Echelon2 power sensor.

Follow these steps to validate the power output on your Echelon2 console:

1. Run the Zeropoint Calibration procedure and check to verify that the Current Angle after calibration is holding steady between 359.9 and 0.1 degrees.
2. In the service menu, scroll to the GEAR option and press LIGHT button. Press and release the STAGE or AVG/MAX buttons to select the gear ON option. Press and release the LIGHT button to set the gear to ON.

**NOTE:** The gear function must be used to validate the power. If the studio/club does not use the Gear function in its classes, then the Gear feature can be turned off after the power validation procedure.

3. Scroll to the service menu EXIT screen using the STAGE or AVG/MAX buttons, and press the “LIGHT” button to exit the service menu and return to ride mode.
4. Using the power validation table below, select a gear and an RPM, and ride at the RPM. Check the power that is displayed on the console and compare it to the power for the given gear and RPM to see if they match.

**NOTE:** Each gear covers a range of power rather than a single discrete power value. The easiest way to validate the power is to ride at the low end of the gear and check the power at that point. To get to the low end of the gear, add resistance just until the specific gear number shows on the display. For example, if riding at 90 RPM, start adding resistance just until the gear number 8 (or any other desired gear) is displayed. The accuracy of the power displayed will depend on how consistently you can ride at the chosen RPM, and on where in the gear range you are riding.

The power validation test will work for any gear/RPM combination in the table. Not all combinations need to be used for the validation test.

Power Range by Gear

Gear	RPM									
	60	65	70	75	80	85	90	95	100	105
0	8	10	12	13	15	17	19	21	24	26
	13	15	18	20	23	26	29	33	36	40
1	13	15	18	21	23	26	30	33	37	40
	18	21	24	28	32	36	40	45	49	55
2	18	21	24	28	32	36	40	45	50	55
	23	26	31	35	40	45	51	56	63	69
3	23	27	31	35	40	45	51	57	63	69
	27	32	37	43	48	55	61	68	76	83
4	27	32	37	43	49	55	61	69	76	84
	32	37	43	50	57	64	72	80	89	98
5	32	38	44	50	57	64	72	80	89	98
	37	43	50	57	65	74	82	92	102	112
6	59	68	78	88	99	110	121	133	144	156
	71	82	94	106	119	132	145	159	173	187
7	71	82	94	107	119	133	146	160	174	188
	88	102	116	131	147	164	180	197	214	232
8	88	102	117	132	148	164	181	198	215	233
	109	126	144	163	183	203	224	245	266	287
9	109	127	145	164	184	204	225	246	267	289
	133	154	177	200	224	249	274	300	326	352
10	134	155	177	201	225	250	275	301	327	354
	161	186	213	241	270	300	330	361	393	424
11	161	187	214	242	271	301	331	362	394	426
	190	220	252	285	319	354	390	427	464	502
12	191	221	252	286	320	355	392	429	466	503
	221	256	293	331	371	412	454	496	540	583
13	221	256	293	332	372	413	455	498	541	585
	252	292	335	378	424	471	519	568	617	667
14	253	293	335	379	425	472	520	569	619	669
	285	330	377	427	478	531	585	640	696	752
15	285	330	378	428	479	532	586	642	697	753
	317	367	420	475	532	591	651	712	774	837
16	317	368	421	476	533	592	652	714	776	838
	349	404	462	522	585	650	716	784	852	921

NOTES:  
1. Console and power sensor must be properly calibrated with the zero set point tool prior to validate against this chart  
2. For purposes of validation, not all gears and RPMs are shown. Only gears 0 - 16 are shown.

## Schwinn<sup>®</sup> MPower<sup>™</sup> Echelon2 Zeropoint Calibration

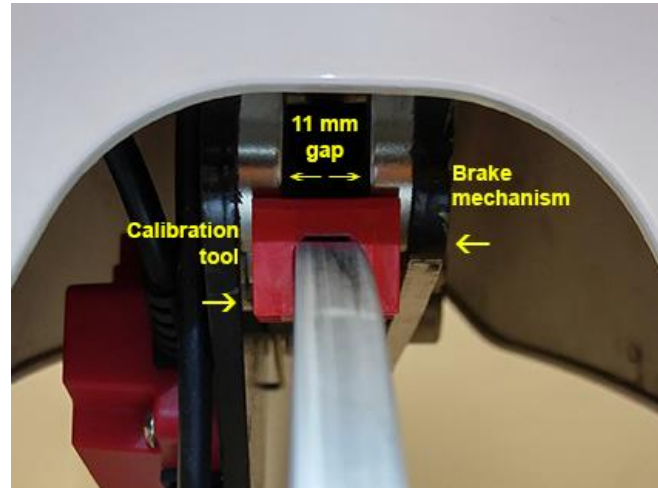
When the optional power upgrade kit is installed with the console for the first time, the magnet gap spacing must be verified and the power sensor zeropoint must be set.

### Magnet Gap Spacing:

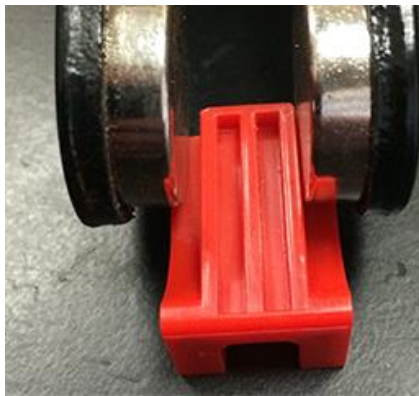
To ensure consistent power readings across all bikes, the optimal distance between the magnets is 10.5mm – 11mm, which should be verified upon installation of the power sensor.

This gap can be measured using the red zeropoint calibration tool. Ensure the tool fits snugly between the brake magnets. If the gap exceeds 11mm, power readings may be inaccurate.

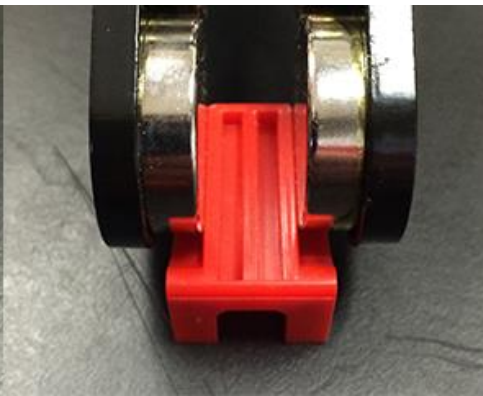
Adjust the magnet gap with soft-jawed channel locks until appropriate gap is met as necessary.



**Incorrect**



**Correct**

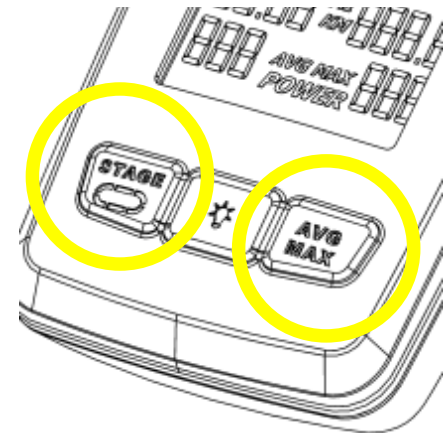


## Zeropoint Calibration Procedure

1. Turn on console.



2. Enter the service menu by holding down the STAGE and AVG MAX buttons together for about 4-6 seconds.



3. Once in the service menu, use the AVG MAX button to scroll to the CALBRATE menu. Press and release the LIGHT button to enter the menu.





4. Scroll to CALIBRATE ZEROPOINT option and press the LIGHT button.



5. Follow the on-screen instructions; place the calibration tool on the flywheel, rotate back until the tool fits between the magnets of the brake assembly, and then press the LIGHT button.



- Turn the brake knob clockwise until the brake mechanism makes contact with the calibration tool and press the LIGHT button.

Do not over tighten.



- The console will display that the Zeropoint is now set. Press the LIGHT button to exit CALIBRATE ZEROPOINT.



- Once the calibration passes, go to CALIBRATE CURRENT ANGLE and verify the angle is 0.0 (+/- 0.1 degrees).

Occasionally, the calibration process does not correctly set the angle on the first try. If the angle reads anything other than 0.0 (+/- 0.1 degrees), perform the calibration again until the CURRENT ANGLE reads 0.0 (+/- 0.1 degrees).

Note: The sensor measures in degrees, so  $0.0 - 0.1 = 359.9$ .



- At this point calibration is done. Exit the service menu and remove the tool from the flywheel (keep for future use).



### **How to Use Power Adjust to Adjust Watts Values**

The PWR ADJUST option in the CALIBRATE menu is designed to allow the user to adjust the power (watts) values of a bike up or down between the range of -99% to +99%. Many riders will perceive that the watts output—even after properly calibrating the sensor—will be “too low” despite being more accurate.

PWR ADJUST allows the power (watts) output to be adjusted up or down until a desired level is reached. It is also intended to be used in the event that users feel the power (watts) values are lower or higher than desired, or to be used when a particular bike or bikes vary from other bikes even after performing the calibration.

Given normal manufacturing tolerances, there may be rare cases where some bikes still vary noticeably from other bikes. Before adjusting the watts output of any bike, first perform the calibration steps above. Use the PWR ADJUST to adjust a bike’s Power output. A positive (+) angle offset will increase the power (watts) output for a given level of resistance (making the bike feel “easier”). A negative (-) angle offset will decrease the power (watts) output for a given level of resistance (making the bike feel “harder”).

To set the angle OFFSET:

1. Enter the service menu.
2. Enter the CALIBRATE menu.
3. Scroll to the PWR ADJUST menu and press the LIGHT button to enter the menu.
4. Use the AVG MAX button to increase the watts output (+ offset), or use the STAGE button to decrease the watts output (- offset). Once the desired offset is reached, press the LIGHT button to save the value.
5. Exit the menu and go back to ride mode.



## Assembly & Setup

# Schwinn® Bike & Echelon2 Console Checklist

---

**Use the checklist below to ensure proper installation of Schwinn® Indoor Cycling bikes:**

- All parts and hardware in the package(s) are accounted for.
- Ensure front and back leg support braces are secured to frame and blue loctite is used on all fasteners.
- Bottom bracket is properly tightened at 48 – 50 lbs\*ft.
- Verify crank arms are secured tightly to the bottom bracket at 35 – 40 lbs\*ft.
- Verify pedals are tightly secured to crank arms at 25 – 30 lbs\*ft.
- Adjustment knob for seat & handlebars need to be installed correctly with locking nut tightened into sliders. Ensure that the knobs turn freely and do not “lock up”.
- All chains have been adjusted and set to a proper tension and lubricated, if needed. If a belt is present, adjust for proper tension and DO NOT lubricate.
- All moving parts should move freely and smoothly.
- Check the seat to make sure it is leveled, tight and does not rotate or tilt. Tighten and adjust as needed.
- Bottle cage tightly secured where appropriate.
- Ensure that adjustment knobs (seat height, seat fore & aft, and handlebar) are properly secured and do not interfere with range of motion.
- Test the handlebar and seat post to make sure they move freely and are able to lock at different positions and are free from any oily substances. (if there is grease apparent in the threads, clean with isopropyl alcohol before tightening)
- Adjust the leveling feet to ensure the unit is stable and leveled.



# Assembly & Setup

## Use the checklist below to ensure proper installation Echelon2 consoles:

- Ensure all wiring is routed properly and does not interfere with any moving parts.
- Verify the RPM sensor is 2mm – 3mm away from flywheel.
- Before mounting the Echelon2 power sensor to the magnetic brake, ensure the rubber magnet cap is installed over the nut of the brake assembly.
- For Echelon2 with power sensor: Check all magnetic resistance mechanisms and adjust as needed. Check for proper alignment on flywheel and magnet gap on brake mechanism using the red calibration tool. If necessary, use rubber tipped channel locks to adjust brake mechanism so that the gap between the magnets 10.5mm - 11mm for consistent power readings. Ref. Zeropoint Calibration document (Doc. # 637-4250B).
- For Echelon2 with power sensor: Use the console to run a Zeropoint Calibration and verify Current Angle is set to and holding at 0.0 (+/- 0.1 degrees). Once the Zeropoint has been set, make sure the console is providing the proper feedback for Power and RPM measurements. Ref. Zeropoint Calibration document (Doc. # 637-4250B).
- NOTE:** Please leave the red Zeropoint calibration tool with the club for future calibration.
- If group riding software is present, ensure the console is not displaying a duplicate ID. Ref. Duplicate Console ID document (Doc. # 637-4246B)
- Firmware has been updated to latest version. Ref. Updating Firmware document (Doc. # 637-4247C)

## Overall visual & cosmetic inspection:

All equipment is to be wiped down and checked for defects prior to leaving the facility. Installer is to contact an authorized Core Health & Fitness representative while on site, if there are any issues that have not been resolved.

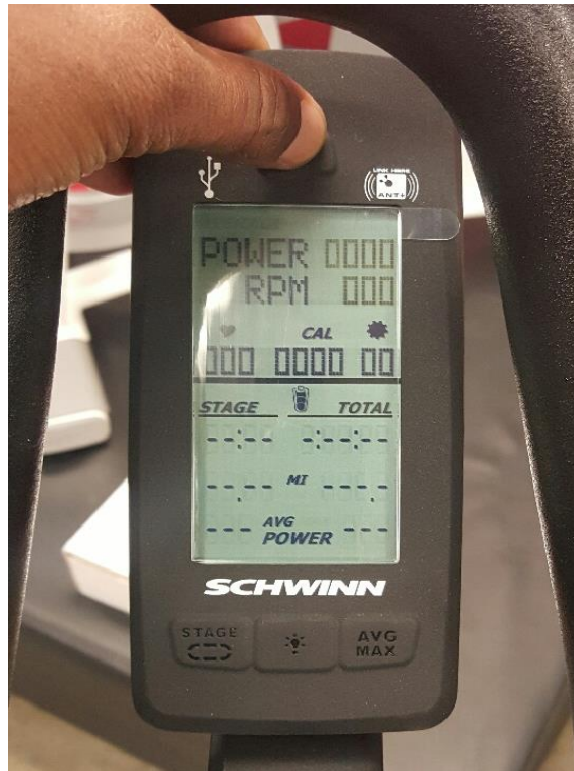


## HOW TO CHECK SOFTWARE VERSION

### Echelon 2 Console

This document explains how to check the software version on an Echelon 2 Console.

1. Press the **(ON/OFF)** button at the top of the display as shown (Fig. 1)

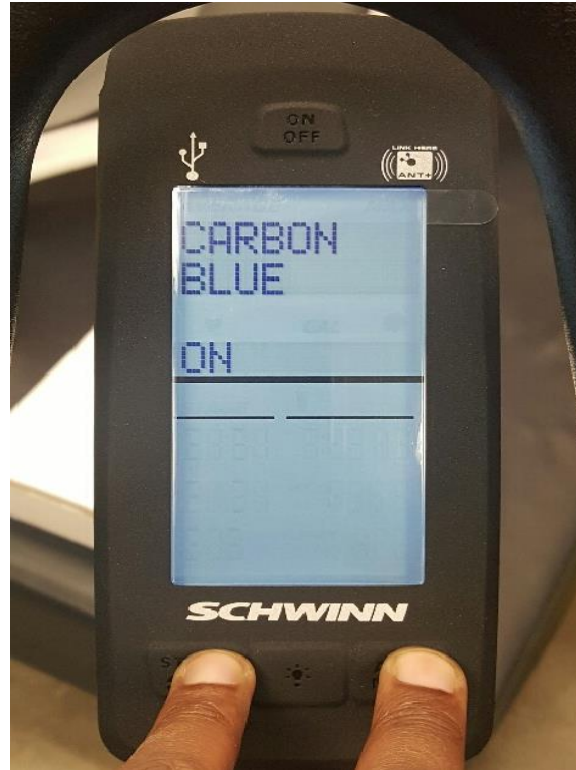


**Fig. 1**



# Customer Service Bulletin

2. Hold down the **(STAGE)** and **(AVG MAX)** buttons at the same time until the “Carbon Blue” appears on the display. (Fig 2)



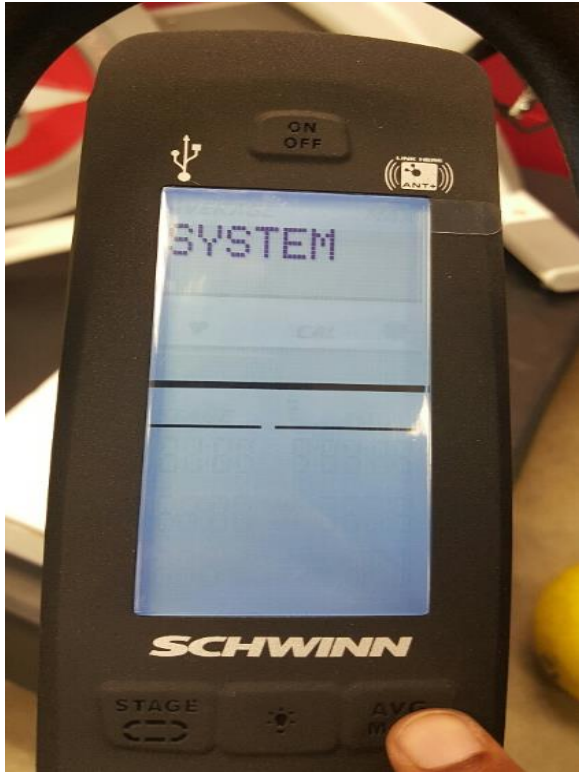
**Fig. 2**



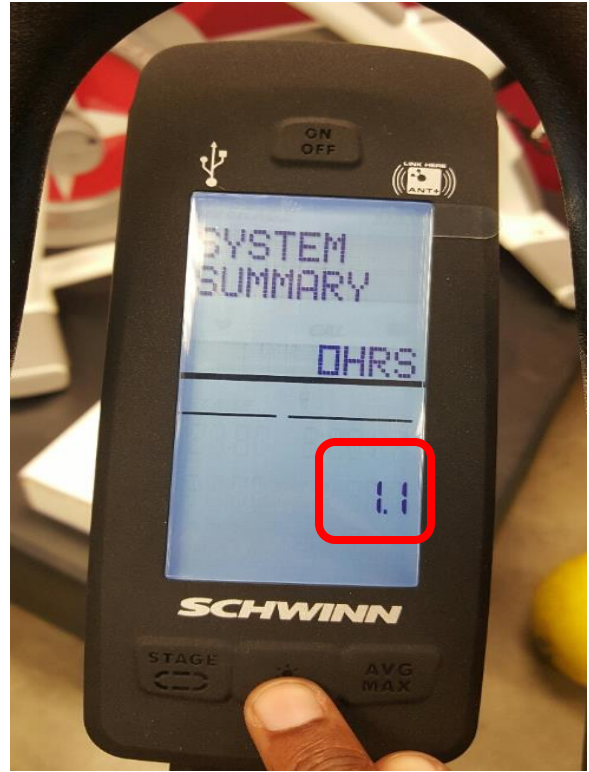


# Customer Service Bulletin

3. Press the **(AVG MAX)** button to toggle through the menu until you see **(SYSTEM)** Fig. 3, then press the **(LIGHT)** button to view the software version.



**Fig. 3**



**Fig. 4**



## Updating Firmware

### MPower™ Echelon2

This document explains how to update the firmware on an Echelon 2 console.

**Tools Needed:**

- 16gb or less USB Drive with V1.1(or newer).

Firmware can be found on the website <https://support.schwinnequipment.com/Software>

Note: The files will be downloaded in a zip format and must be extracted (unzipped) onto the [root directory](#). It is recommended that you use a newer USB drive that does not contain any other files or folder on it.





## Upload New Firmware

1. Turn on the console by pressing **ON/OFF** button, then press and hold **AVE/MAX** & **STAGE** buttons (Fig. 1) simultaneously for 5 seconds. This will get you into the Service Mode.
2. Press **STAGE** button until **SYSTEM** appears on the screen. Then press the **LIGHT** (Fig. 2) to enter the **SYSTEM** menu.
3. Press **STAGE** button until **LOAD FW** (Fig. 3) command appears, then press the **LIGHT** button.
4. **INSERT USB** command will appear, insert the **USB** into port at the top of the console.
5. Press the **LIGHT** button again and this will activate the loading process. This should take no more than 45 seconds to complete. If it does not finish after one minute, there may be an issue with the files (location on drive) or the USB.
6. Once loading is complete. The system will notify it has completed.
7. Press **STAGE** button to exit.
8. After updating the Echelon 2 firmware, please be sure to perform the zero point calibration procedure detailed in CSB 637-4250X "Echelon2 Zero Point Calibration."



Fig. 1



Fig. 2



Fig. 3



## Duplicate Console IDs

### MPower™ Echelon2

When syncing MPower™ Echelon2 consoles with external leaderboard systems (e.g. Performance IQ), there have been some instances of consoles with duplicate IDs. In order for all consoles to pair with the leaderboard, each must have a unique ID.

When consoles have duplicate IDs, they will show on the leaderboard as the same bike. For example when Bike A's console is synced to the leaderboard, it shows as Bike A. When Bike B's console is then synced to the leaderboard, it will also show as Bike A on the leaderboard.

The chipsets used in this communication should have a unique ID but an investigation into this issue found some consoles with duplicate IDs.

**NOTE:** This issue only exists with consoles that have V1.0 firmware and that shows duplicate ID's



**Solution:** Upload console firmware V1.1, and then use SYSTEM>SERIALNUM function in the Service Mode to generate a new, unique consoles ID.

Firmware can be found on the website <https://support.schwinnequipment.com/Software>

Tools Needed:

- USB Drive with V1.1 software in the root directory.

**NOTE:** All consoles in a given studio should always have the new version of firmware loaded into the consoles when this issue arises. However, only one of two given consoles displaying duplicate IDs needs to have a new ID number generated. When updating the firmware in all consoles, each console will need to be repaired with the leaderboard system.



## Upload New Firmware

1. Turn on the console by pressing **ON/OFF** button, then press and hold **AVE/MAX** & **STAGE** buttons (Fig. 1) simultaneously for 5 seconds. This will get you into the Service Mode.
2. Press **STAGE** button until **SYSTEM** appears on the screen. Then press the **LIGHT** (Fig. 2) to enter the **SYSTEM** menu.
3. Press **STAGE** button until **LOAD FW** (Fig. 3) command appears, then press the **LIGHT** button.
4. **INSERT USB** command will appear, insert the **USB** into port at the top of the console.
5. Press the **LIGHT** button again and this will activate the loading process.
6. Once loading is complete. The system will notify it has completed.
7. Press **STAGE** button to exit.



Fig. 1



Fig. 2

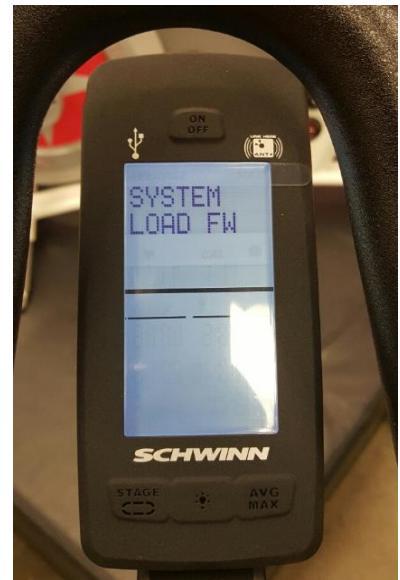


Fig. 3

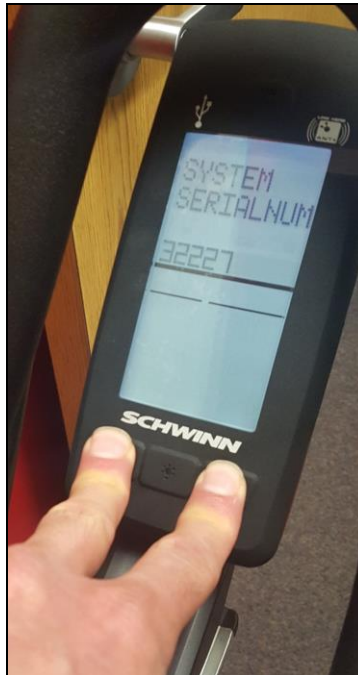




**NOTE:** Once the near firmware is loaded a new unique ID number will be generated. If however duplicate ID's still exist follow the steps below to reset the ID.

## Assign a New ID Number

1. Enter Service Mode again by pressing and holding the **STAGE** and **AVG/MAX** together.
2. Scroll to the **SYSTEM** menu by pressing the **AVG/MAX** button. Then press the **LIGHT** button to enter the **SYSTEM** menu.
3. Press the **AVG/MAX** button to scroll to the **SYSTEM** then scroll to **SERIALNUM**.
4. Press and hold the **STAGE** and **AVG/MAX** buttons until a new ID number is generated. (Fig. 3).



**Fig. 4**

5. Press the **AVG/MAX** button to the **EXIT** screen, and press the **LIGHT** to exit the **SYSTEM** menu. Then press the **AVG/MAX** button again to the **EXIT** screen and press the **LIGHT** button to exit the Service Mode.
6. With the new ID generated, proceed to syncing the console to the leaderboard system.



## Battery Percentage Displaying Low

### Schwinn Echelon 2 Console

- The Schwinn Echelon 2 console may display the remaining battery percentage 15-20% lower than it actually is. **Please note that this will not affect the operation of the console or bike in any way and will be corrected in a future firmware release.**
- For example in Fig. 1 below, a brand new pair of batteries were installed into the console but when checked through the service menu, the console displays that the batteries have only 83% power remaining.

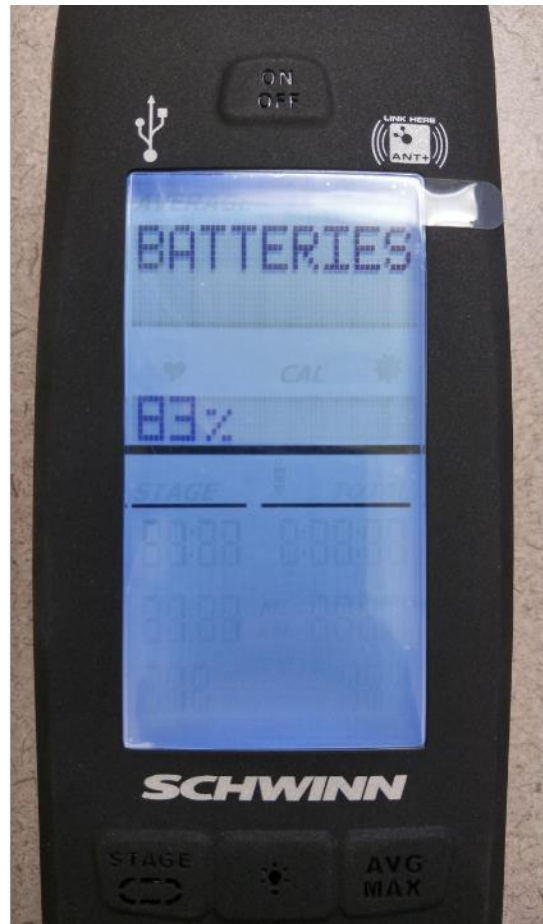


Fig. 1





## Schwinn MPower™ Echelon2 Frequently Asked Questions

### ECHELON2 FEATURES AND FUNCTIONALITY

#### **How is the new Schwinn Echelon2 console and power upgrade different from the Echelon?**

The new Echelon2 is an evolution of the Echelon. We've kept the basic look of the console the same but changed the outer case to black to distinguish it from the Echelon. Below is a list of new or changed features:

- The power sensor has been replaced with a new sensor that is more stable and more accurate than the previous power sensor, and consumes less energy. The new power sensor uses an all new algorithm that provides more accurate and consistent power readings
- The new power sensor has been simplified by removing the power sensor firmware. Now only the console contains the firmware that drives the whole system, and firmware updates for the entire system can easily be done through the USB drive
- There is now a dedicated ON/OFF button at the top
- The END button has been replaced by the AVG/MAX button
- The term WATTS has been changed to POWER, though the units of power are still measured in watts
- The speed display has been removed, and the heart rate, calories, and optional gear display have been moved up to the third line
- There are now AVG and MAX power displays in the STAGE and TOTAL ride timers so that riders can see their total ride average power at all times, and they can now see their stage average power
- The function of the STAGE button has changed so that one press starts a stage, a second press ends the stage and freezes the data, and a third press clears the stage and begins a new stage
- When a rider stops pedaling and the console enters Pause mode, the timers now will continue running for as long as the console is in Pause mode; however, the console will not continue counting average power until the rider begins pedaling again
- The console connector has been redesigned and now has a protective cap that prevents the connector from accidentally being unplugged
- The data file that can be uploaded to a USB drive displays summary data for the entire ride and for each stage, as well as total ride data
- Improved battery life

#### **The Echelon2 console seems to report higher or lower power (watts) than the Echelon. Is the Echelon2 less accurate than the Echelon?**

The Echelon2 has been designed, tested, and validated to be more accurate than the Echelon. In some cases, the Echelon2 may report lower power (watts) than the Echelon due to improved accuracy. If riders are used to higher numbers and want to see higher numbers, then the PWR ADJUST feature in the service menu can be used to adjust the power display to be higher (or lower if desired). The PWR ADJUST feature allows you to adjust the power up or down between -99% and +99% to change the level of power that is displayed for a given level of resistance.. Refer to the Installation Guide included on the CD that came with your console kit on how to adjust power level.



### **How does the Echelon2 measure power and how does that method of measurement differ from how other group cycling bikes measure power?**

The Echelon2 uses a simple and robust position sensor to measure the angle of the resistance mechanism. The console then uses an algorithm to calculate the power based on the angle of the resistance mechanism. The algorithm was developed using a laboratory dynamometer to validate the accuracy of the power algorithm, achieving a level of accuracy that is comparable to other group cycling power meters.

Some other brands of group cycling bikes use strain gauges to measure torque or load. Strain gauges do not directly measure power either; they measure the strain of a particular component. They then provide electrical signals that must then be run through an algorithm, as is done with the Echelon2, to calculate power. All power meters, regardless of how they provide data, must be validated for accuracy. The Echelon2 power upgrade kit is the only power measurement device that can be bolted on by the user and does not require factory installation. In addition the sensor used in the Echelon2 is far less costly than strain gauge sensors, yet provides comparable accuracy.

### **The amount of calories that the console shows for my ride are lower than the amount of calories that my heart rate monitor says I burned. How are calories calculated on the Echelon2 and why are they lower than what my heart rate monitor says?**

Calories on the Echelon2 are calculated directly from the power, and are a true measure of the amount of energy expended by turning the pedals. The Echelon2 calories do not take into account any biological factors such as age, weight, and gender. The Echelon2 calories also do not take into account calories burned due to a person's normal metabolic rate. Heart rate monitors use heart rate, age, gender, and weight to estimate how many calories a person burns. The heart rate monitor not only accounts for work done on the bike, but also resting metabolic rate while doing the work. So the heart rate monitor calories will likely always be higher than the calories calculated by the Echelon2. The amount of difference between the two will depend on physical fitness level and biological factors of individual riders.

### **I see that the term "WATTS" was replaced by the term "POWER." How does power differ from watts?**

Power is the correct term for the parameter while watts is the unit of measure of power. The power is still measured in watts; however, we changed the term to power since it is more meaningful to most people.

### **Is the Echelon2 power display limited to 999 watts like the Echelon?**

No. Echelon2 is now capable of displaying four digits for power, and so riders can now exceed 1000 watts.

### **Why is speed no longer displayed on the Echelon2 console?**

On a stationary indoor cycling bike speed is a largely estimated number that provides little value given that the bike is not moving. Speed on an indoor bike is synonymous with power. Our



education and development team feel that power is a more important training parameter with an indoor bike, so we added average and maximum power displays to the Stage and Total timers and eliminated speed in order to simplify the display and not have excess data points.

### **Why is distance still used on the Echelon2 when speed is not and how is distance calculated?**

Our education team feels that distance is a parameter that many of their riders like to see compared to speed, and that keeping distance is very important as it gives riders a benchmark to reach, especially when doing stages. Distance is calculated using an algorithm that is based upon power and simulates the distance one would travel on flat ground. With the Echelon2, riders can set distance goals for themselves for the ride or for stages, and use average power as a guide to help them be sure they will meet their goals.

### **How are gears calculated on Echelon2?**

Gears are an indicator of the level of resistance and are calculated from the angle of the resistance mechanism. On the Echelon2 we tightened up the range of gears so that there would not be large changes of resistance between gears. The Echelon console has 19 gears. The Echelon2 has 36 gears.

### **Why am I not able turn on the Echelon2 console by pressing any button like I was able to on the Echelon?**

On the Echelon2, we created a dedicated ON/OFF button at the top of the console. The console can be powered on or off using this button only.

### **How does the Stage timer on Echelon2 work?**

On the Echelon2, we changed the function of the Stage timer so that when stopping a stage, the data is frozen on the screen for the rider to see before starting another stage. To clear the data and begin a new stage, the rider simply needs to tap the STAGE button a second time.

## **TROUBLESHOOTING**

### **Why am I getting erratic RPM and power numbers?**

In most cases, erratic RPM numbers are caused the RPM sensor not being properly positioned relative to the magnet on the flywheel. Erratic RPM readings will cause erratic power readings because power is calculated from RPMs. The first step in diagnosing erratic RPM readings is to check the RPM sensor position. Refer to the Echelon2 Installation Guide for details on how to properly position the RPM sensor. Other things to check are cables to make sure there is not damage, and connectors to make sure they are secure and not damaged. If none of these measures correct the issue, contact Schwinn customer support.

### **Why am I getting abnormally low power readings even at high resistance?**



In rare cases, the Echelon2 power sensor may lose its zero set point calibration. Follow the instructions in the Installation Guide to check current angle and do a zero point calibration of the sensor.

### **Why are certain bikes giving higher or lower power than other bikes?**

Bikes that give higher or lower power readings (i.e. feel easier or harder) than other bikes may not have been properly calibrated. Follow the instructions in the Installation Guide on how to do a zero set point calibration. The Installation Guide is included with the CD that comes with the console kit, or can be downloaded from the Schwinn Equipment website at [www.schwinnequipment.com](http://www.schwinnequipment.com). In most cases, when all bikes are properly calibrated, the variance from bike-to-bike should be less than 5%. In rare cases where a particular bike or bikes appear to be more than 5% different from other bikes, the PWR ADJUST feature in the service menu can be used to increase or decrease the power value to make all bikes consistent.

### **What heart rate monitors and fitness watches are compatible with the Echelon2?**

The Echelon2 is compatible with the same heart rate monitors and watches as the Echelon. For heart rate monitors, the Echelon2 will connect with 5.3 KHz analog heart rate straps, and compatible 2.4 Ghz ANT+ devices. For a list of compatible devices, check the ANT+ website product directory at <http://www.thisisant.com/directory/>. Note that not all ANT+ enabled devices are compatible with the Echelon2.

### **Why won't my heart rate strap to pair with the Echelon2?**

You must be wearing a 5.3 KHz analog or compatible 2.4 Ghz ANT+ heart rate strap. When you first power on the console, the heart rate icon on the left side of the top half of the screen will flash for 30 seconds while it searches for a signal from the strap. You must be within 31 inches in order for the strap to establish a connection with the console. If after 30 seconds the strap does not pair with the console, you may reinitiate the pairing process by tapping the ON/OFF button. Once the strap and console pair, the heart rate will display on the console. If you are unable to establish a connection using a compatible heart rate strap, then the battery may be dead. Change the battery and attempt to pair again.

### **How do I get my ANT+ fitness watch to pair with the Echelon2?**

Check the ANT+ website product directory at <http://www.thisisant.com/directory/> to make sure your watch or device is compatible with the Echelon2. Then check the instructions for the watch to make sure it is in pairing mode. Then, while trying to pair, hold the watch right above the ANT+ logo on the console until a connection is established.

### **Can the Echelon2 pair with my smartphone and be used with fitness apps?**

The Echelon2 is only ANT+ capable and is not Bluetooth capable. The Echelon2 can be paired with certain smartphones and apps via separate hardware plug in devices (e.g. Wahoo ANT+ key for iPhones, and Garmin ANT+ stick with USB OTG cable for Android phones) that are capable of picking up the signal from the Echelon2. In order for apps to be able to read the signal from the Echelon2 console, they must be configured to read the signal. You must contact



specific app developers to determine if their apps are compatible or to request that compatibility be added to the app. Schwinn does not currently develop apps that can connect to the console.

### **How do I get my consoles to connect to my leaderboard system, such as Performance IQ?**

There is a setting in the service menu that must be turned on in order to connect with an external leaderboard system. Enter the service menu and scroll to the OPEN ANT CHANNEL menu. Turn the setting to ON. The setting is set to OFF by default to conserve battery life in consoles that are not connected to an external leaderboard system. Refer to the Installation Guide on how to enter and navigate the service menu.

### **The console display has frozen and the buttons will not function. How do I get to unfreeze?**

In the rare case of a console display freezing, simply remove and reinstall the batteries. Refer to the Echelon2 installation guide for instructions on removing batteries. If the problem persists, contact Schwinn customer support.

### **Why does the console display start flashing when I stop pedaling?**

The console has three modes of operation, Ride mode, Pause mode, and Summary mode. When you power on the console and start riding, you immediately go into ride mode. When you stop pedaling for about 10 seconds, the console will enter Pause mode. While in Pause mode, the display will flash; however, the Stage and Total timers will continue counting. This allows an instructor to get off the bike during class without their time getting out of sync with their riders. Even though the timers continue running, the average power stops tallying so that the rider does not hurt their average power for the ride. The console will remain in pause mode for 5 minutes unless the rider begins pedaling again.

After 5 minutes, the console will go into Summary mode, where it will flash the Average and Maximum values of power, RPM, and heart rate. If there is a USB stick inserted into the USB drive before entering Summary mode, then the console will upload the ride data to the USB stick. While the upload is in process, the USB symbol will flash next to the RPM display. Once the USB symbol stops flashing, then the USB stick may be removed. A rider can enter Summary mode from Pause mode at any time by pressing and holding the AVG/MAX button for 5 seconds.

### **Help!!! I read all the frequently asked questions but I still have questions or issues. How can I get additional help or answers?**

Go to [www.schwinnequipment.com](http://www.schwinnequipment.com) where we have all of our contact information, and customer resources for all of our products, including Owner's Manuals and Installation Guides, Service bulletins, and firmware updates.

## Schwinn Console Reference

### MPower Console



RPM Sensor



Power Sensor



- Wireless communication between console and sensor(s).
- Batteries in the console and sensors.
- One console battery readout

### MPower Console V2



RPM Sensor



Power Sensor



- Wireless communication with sensor(s)
- Batteries in the console and sensors
- Up to 3 battery readouts, depending on which sensor(s) are present.
- Sport, or Performance mode, depending on which sensor(s) present.
- **Console PN#:** 020-0025
- **RPM Sensor PN#:** 003-2341
- **Power Sensor PN#:** 020-0002



## MPower Echelon Console



RPM Sensor



Power Sensor



- Wired communication between console and sensor(s).
- Batteries in console only.
- Friction connection in back of console
- **Console PN#:** 020-0036
- **RPM Sensor PN#:** 020-0037
- **Power Sensor PN#:** 020-0003
- **Internal Wiring Kit PN#:** 020-0070
- **External Wiring Kit PN#:** 100281
- **Flywheel Calibration Tool PN#:** 740-8607

## MPower Echelon2 Console



RPM Sensor



Power Sensor



- Wired communication between console and sensor(s).
- Batteries in console only.
- RJ-45 connector in back of console.
- **Console PN#:** 740-8925
- **RPM Sensor PN#:** 740-8926
- **Power Sensor PN#:** 740-8934
- **Internal Wiring Kit PN#:** 020-0070
- **External Wiring Kit PN#:** 100281
- **Zeropoint Calibration Tool PN#:** 740-8607
- **Magnet Sensor Cap PN#:** 740-8933